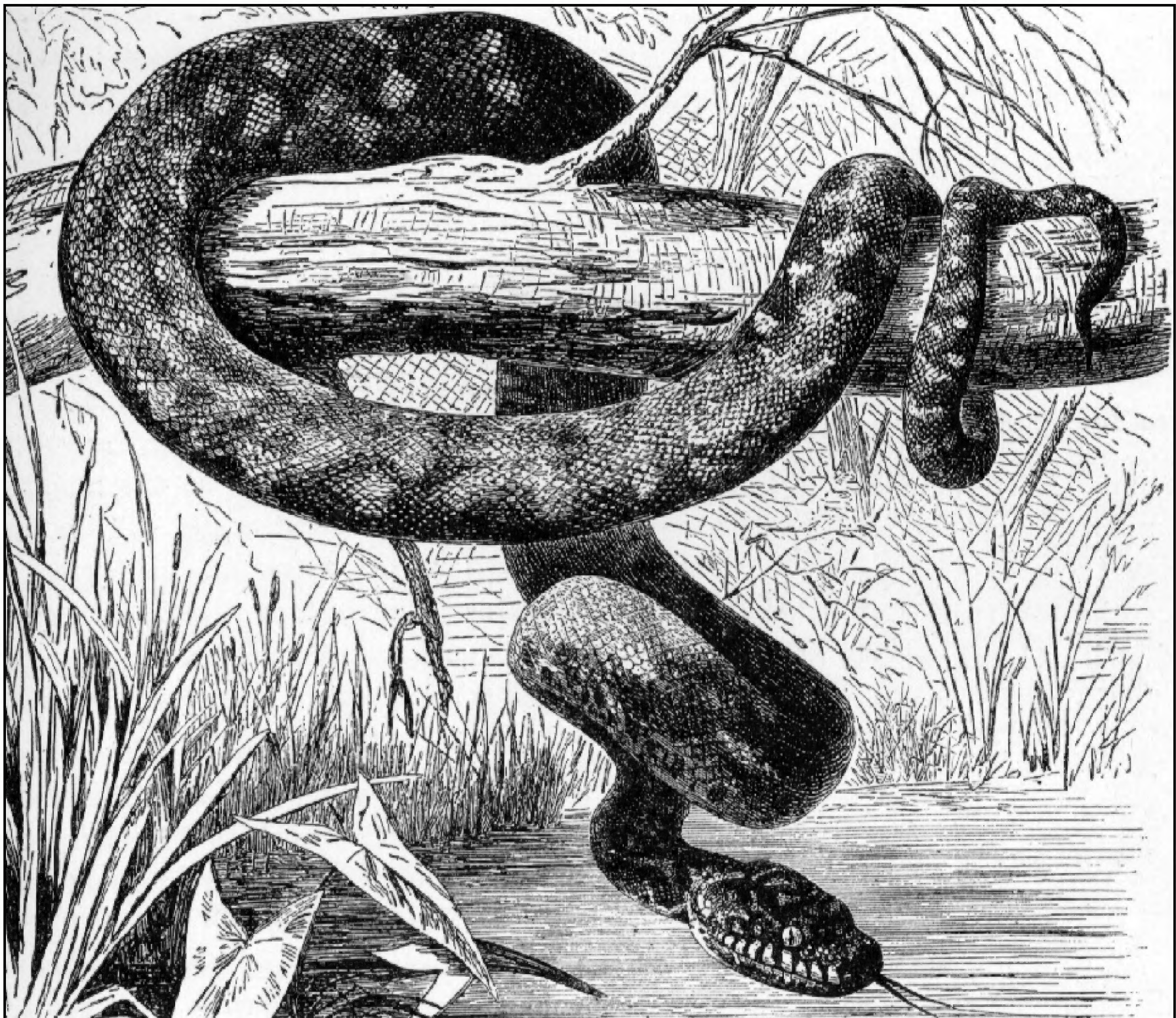

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A Case of Twinning in the D'Orbigny's Slider, *Trachemys dorbignyi* (Testudines, Emydidae)

Flavio de Barros Molina¹, Eduardo Cunha Farias² and Norma Gomes³

Information on chelonian twinning is scant (Herman, 1987); completely separate and normally developed twins seem to be rare in oviparous reptiles (Crooks and Smith, 1958). Plymale et al. (1980) presented a case of asymmetrical twinning in *Trachemys scripta elegans* and also reviewed the subject, reporting cases for ten species of turtles and tortoises. The following account is believed to be the first record of twinning in *Trachemys dorbignyi*.

On 12 October 1992, a female in the colony of São Paulo Zoo {São Paulo (2340'S, 4650'W), SP, Brazil} laid 12 eggs in the sand area of an outdoor enclosure. Size, shape and coloration of the eggs were typical of the species (Molina, 1995; Molina and Gomes, In prep. a).

The eggs were buried in a plastic container filled with damp vermiculite. The container was maintained inside a plastic box closed by a wooden lid and supplied with a household lamp (Incubator E, sensu Molina, 1995). Mean incubation temperature was 29.0C.

Three eggs hatched on 22 December, after a period of 71 days. Twins hatched from one egg, joined by the yolk sac (Figure 1). From the remaining eggs, two hatched on 24 December, two on 26 December and one on 28 December. On 26 December one hatchling was found dead inside the egg, and on 3 February three eggs were found destroyed by unidentified insects. The nine newborns hatched after a mean incubation time of 73.0 days. Hatching behavior was the same mentioned by Molina (1995) and Molina and Gomes (In prep. b).

The management applied to the newborns (including the twins) was the same described by Molina (1989, 1995, In press). They were maintained indoors at a temperature be-

tween 24 and 29C. To help absorption of the large yolk sac we put the twins between two layers of wet cotton in a plastic box close to a heat source (most of the time at about 30C). Four days later, when the yolk sac was almost completely absorbed, they were transferred to a plastic box containing a shallow layer of tepid water and a basking platform. On the next day the thin portion of yolk sac still linking the twins was cut. Periodically they were exposed to the morning sun.

Eight days after hatching the twins were measured and weighed. They measured respectively 2.11 and 2.75 cm in carapace length (CL); 2.12 and 2.48 cm in maximum carapace width (CW); 1.23 and 1.39 cm in shell height (SH); 2.00 and 2.55 cm in plastron length (PL); 1.75 and 2.00 cm in plastron width (PW); and 3.0 and 4.7 g in weight. The smallest one showed supernumerary carapace scutes (Figure 2), which seems to be common for the species (Molina, 1995). Except for size, they were identical to normal newborns (Molina, 1995; Molina and Gomes, In prep. a,b).

During the fourth week all the newborns were measured. Dimensions for the seven normal young were (extremes with mean and standard deviation in parentheses): CL, 3.36 to 3.77 (3.64 $\pm$ 0.15) cm; CW, 3.18 to 3.54 (3.45 $\pm$ 0.13) cm; SH, 1.67 to 1.84 (1.75 $\pm$ 0.06) cm; PL, 3.28 to 3.68 (3.47 $\pm$ 0.15) cm; PW, 2.49 to 2.73 (2.65 $\pm$ 0.08) cm; and weight, 10.5 to 12.7 (11.96 $\pm$ 0.79) g. Four of them also showed supernumerary scutes on the carapace. Measures, morphology and coloration of the seven young are typical of the species (Molina, 1995; Molina and Gomes, In prep. a,b). At this time the twins measured respectively 2.25 and 2.98 cm CL; 2.26 and 2.69 cm CW; 1.30 and 1.56 cm SH; 2.11 and 2.77 cm PL; 1.75 and 2.07 cm PW; and 4.2 and 6.8 g in weight (Figure 2).

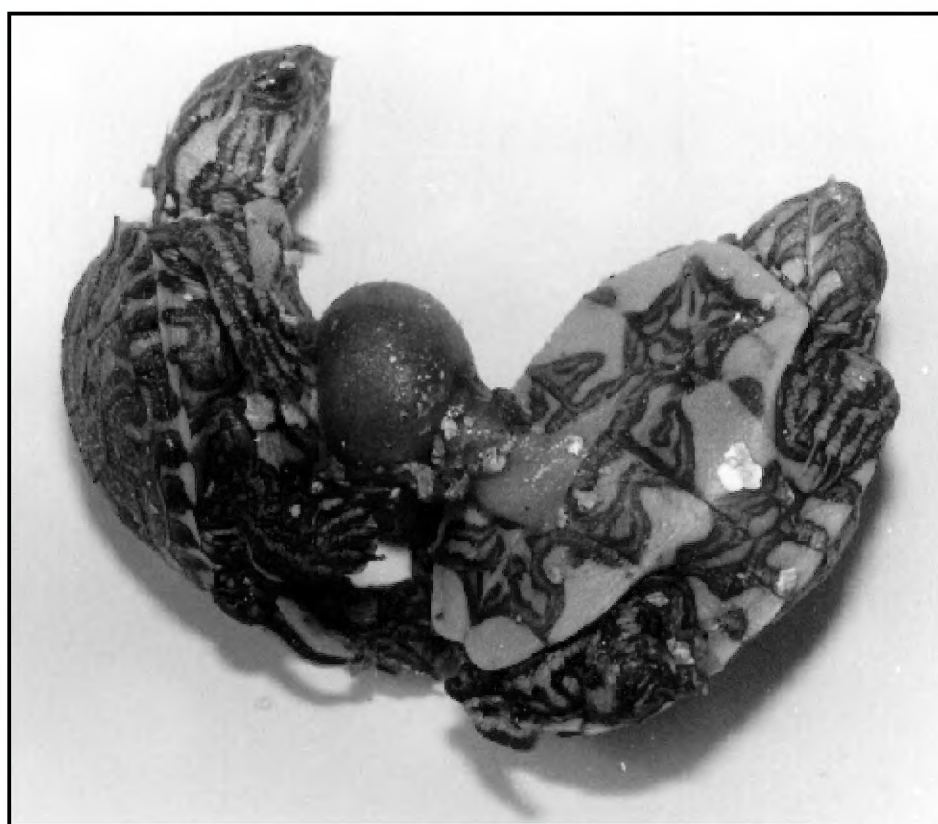


Figure 1. Twins of *Trachemys dorbignyi* (joined at the yolk sac) at one day of age. Note the caruncles under the nostrils.



Figure 2. Twins of *Trachemys dorbignyi* and one normal sibling at 16 days of age. Note the supernumerary scutes on the carapace of the smaller twin.

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On 26 February all the young were photographed in black and white for identification, as successfully used by Molina (1989, 1995, In press) and Molina et al. (1996). They were then transferred to small outdoor tanks, described by Molina (1995, In press). The smaller twin died on day 105, and the bigger one on day 158.

Paulo, Dr. Adayr Mafuz Saliba, the Reptile Curator, Mario Borges da Rocha, and all the staff, for the support given. We thank Glória Jafet for Figure 1 and Sylvio Coelho Vieira for Figure 2. F. B. Molina would like to thank Conselho Nacional de Desenvolvimento Científico e Tecnológico, Brazil, for financial support (CNPq research grant 300328/95-8).

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The Chameleons' Tale: The Education of a Herpetoculturist

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30 September 1995: The Decision

We made the 5-hour trip from Phoenix to San Diego, coupling a visit to a new town for a herp show with a reunion of college friends. I have kept snakes for over 10 years, and it is always a thrill to visit these exhibitions. But the chance that we would bring home a new creature was slim. Our small apartment is already fairly crowded with roomy cages and aquaria, and I refuse to use sweater boxes just to expand our collection. We would have gladly cleaned out an area of our apartment for some of the snakes we saw that day, but we would also have had to clean out our checking account. Our enjoyment of the day was not diminished by the probability of going home empty-handed.

That would change as we headed down the last aisle of the expo. Crowded into a cage were about 70 Jackson's chameleons, *Chamaeleo jacksonii xantholophus*, captured in and exported from Oahu. These Kenyan exotics became established in Hawaii in 1972 when a dealer released some into his backyard to recuperate from the stress of importation (rumor has it that the same thing is happening in southern California). We were on the verge of breaking the cardinal rule of pet acquisition, that against buying animals to rescue them.

I have always been fascinated with Old World chameleons, and the thought of diversifying the collection was exciting (Let's face it—we start with snakes in part because of their relative ease.) We spent the next few hours discussing the pros and cons of assuming a new responsibility, talking with anyone in or near a chameleon supply booth, and scanning the few books to be found. It was quite apparent that this was not going to be a simple endeavor. Compared to keeping snakes, having chameleons is tantamount to having children, and just like children, don't expect to find a how-to manual. It was probably the chance to do something that very few people have done successfully that finally convinced us to take the plunge. We purchased a pair of medium-sized Jackson's, and the odyssey began. After a stressful night (for all four of us), and an unofficial quarantine in the security office while the humans toured the San Diego Zoo (coincidentally on Reptilemania Weekend), we headed home with our new children.

The Set-up

We had already decided that our chameleons would not live in a cage. Our apartment has an east exposure, perfect for receiving the morning Arizona sun through our open bedroom window. They would live on a 2-foot ficus tree planted in a foot-high plastic pot sitting on a small stool. A 4-foot trellis provides not only support for the young tree, but more space for the chameleons to roam and multiple sturdy areas to hang food receptacles. Small opaque dishes are good for mealworms and waxworms, tall glasses for crickets; each hanging from the trellis by twine and paper clips. It is advantageous to

be able to move the food around, especially when feeding more than one chameleon in the same tree. I keep a small amount of carrot or dog food in the feeding containers, both to keep the prey items alive longer and for last-minute nutrient loading. Nutrient unloading by the chameleons usually falls into the plant.

Frequent misting is a must, for a thirsty chameleon usually does not eat. It also seems possible that a thirsty chameleon is not able to eat, for I have noticed that if a chameleon attempts to eat before drinking, their tongue does not seem to be moist enough for a successful capture. As soon as the animals get over the initial shock of a misting, they are usually willing to allow me to spray directly into their mouths. I have had problems with a drip system, spending weeks testing for the proper flow, only to have it completely fail when put to use. The drip system consists of a 2-liter bottle and two IV hoses, and more experimentation is needed to perfect this system. Although moist feces are reported to be a sign of ill health, it is not unusual to find them after a prolonged drinking bout. I have seen the same phenomenon in my snakes.

The Children

The male, Reggie, seemed to adapt quickly to our world. He was almost always brilliantly green, with a bright yellow hue across his head, neck and upper body. He staked out his prime spot early, always sleeping on the same branch above our bed. It must have been a great spot, for on the rare occasion he fell asleep elsewhere, the female (Samantha) took this spot. He made his early morning trip to the back of the trellis to bask, and waited for his morning feeding. He was always a good hunter, and was never shy about taking any stray insect from my hand. He moved frequently, always with the stereotypical hesitation gait of an animal that survives by blending in perfectly with wind-blown tree limbs. He occasionally vacated the tree in favor of one of his favorite hiding places in our bedroom (a fact that leaves our guests utterly dumbfounded). We could tell when he was on the lam, for Samantha would be calmly sitting on "his" branch.

She has always worried us, for she did not acclimate as quickly as he did. She did not eat for the first few days, but readily accepted pediatric electrolyte solution from an eyedropper. During one of her drinking bouts I slipped a cricket into her mouth, ending a nagging worry that she would never eat at all. I still sneak food into her mouth while drinking whenever I suspect that she is undernourished.

We had always planned to keep the pair together, despite advice to the contrary, for we had only one area in the apartment that provided unfiltered sunlight and fresh air. They had frequent shoving matches, each of them having been the instigator. Samantha wore her stress colors constantly, so I decided to facilitate a separation. Using cardboard, I divided the

tree in half. Each time, one or the other went to great lengths to negotiate the divider and be reunited. It seemed like they couldn't live together, and couldn't live apart.

Her Children

We had suspected that Samantha was gravid for a couple of months. She seemed to be getting a distended stomach despite a modest appetite. Some days she definitely looked gravid, other days we chalked it up to wishful thinking. Still very worried about what we considered insufficient feeding, I had planned to open up her abdomen if she unfortunately died. She had some of the classic characteristics of a chameleon near parturition, for she was always fairly active and a sporadic feeder. It was going to be hard to identify if and when she was going to give birth, at least for our first time.

The day, 7 January 1996, began ominously for our mother-to-be. I awoke to the sound of a thud—Samantha had fallen out of the tree. She lay motionless on her right side, and I feared the worst. She then attempted to rise, resembling what I imagined a pregnant cow, cruelly tipped over by troublemakers, would look like. I placed her back into the tree, and in retrospect, this was to be the day that she would not eat, but be *very* active.

We went hiking on the 100th day of being chameleon keepers, returned home around 3 P.M., and immediately checked the chameleons. I had made it a habit of sifting through the feces in the soil for signs of aborted fetuses. This time there seemed to be odd-looking feces stuck to the trunk of the tree. . . .

What a absolute thrill to find nine miniature chameleons, so ugly and spindly that they were adorable. If a computer took the area of the tree, and calculated nine spots as far away from each other as possible, I don't believe it would have been much different than Samantha's choices. She did not place any in the immediate vicinity of Reggie, although I know of no evidence of cannibalism in Jackson's. Even though Samantha will not provide maternal care, she dispersed her young as much as possible to maximize their chances by maximizing their sole resource—space.

We were excited, and surprised, and prepared. We had started raising crickets, and had hundreds of newborns available. The crickets are kept in 20-gallon buckets which contain a small container of moistened soil, and are fed dog food, cricket nutrient, vegetables and orange slices. The food must be kept out of the soil. The sealed lid keeps in the moisture, even in arid Arizona, but it is still necessary to mist the soil twice a week. I air the buckets out three or four times a week, and keep an eye out for fungus that will grow on the food. It is necessary to use egg cartons, not only as the favored hiding places of crickets, but as a bridge between the bucket and soil for the newborn invertebrates. Twenty-five female crickets, identified by the long egg-laying tube protruding straight out of the rear of their abdomens, and six male crickets are sufficient to start a breeding colony. Newborns will be seen scurrying around in three or four weeks.

The nursery was a 36"L × 16"W × 17"H aquarium with

two small ficus trees in one-gallon pots. It seems best to keep the trees cropped well below the top of the tank to aid in ventilation and decrease humidity. (Jackson's seem to require less humidity than other species. Those with species requiring more humidity might opt to keep the trees bushier.) I experimented with an airstone in a glass of water for humidity, but beware—I had to rescue two bold juveniles who took the plunge, and one hanging on for dear life from the hose. The juveniles should not be left alone with such a device unless the water is sufficiently covered. Plastic vines were draped between the trees, and small branches were placed on the bottom. The vines are definitely well-traveled, and juveniles need a route from the vivarium bottom to the trees to accommodate their return after the inevitable falls.

The first location for the tank was probably too hot, for the sunny half of the vivarium reached 100°F during the morning sun, but it didn't deter four of the juveniles from staying there every day (I wish I knew if it was the four largest, or even the same four every day. It was essentially impossible to tell the difference until their sizes changed drastically. I nearly went crazy counting to nine 50 times each day!) The other five stayed out of the direct sun but under the 15W Life-Glo fluorescent full sun spectrum light. They have since been moved out of this window. The ambient night temperature in our apartment is usually in the high 70s, once again higher than their natural environment. It remains to be seen if this has any future adverse effect on the juveniles. Temperature tolerance could have a level of plasticity in captive-born chameleons as long as a sufficient amount of water is provided.

The New Personalities

It is at this point that a beginning chameleon keeper will encounter trouble. Books on chameleons devote dozens of pages to adult care, only to provide a disappointingly small paragraph to neonate care. It is this paucity of information that inspired me to detail my personal experience.

Even as three-quarter-inch juveniles, barely the size of a penny, chameleons are powerful clingers—their muscles certainly stronger than their young skeletons. The utmost care must be taken to remove them from their natal branch for transfer to the nursery. Gentle pressure behind each of their limbs will encourage them to release the powerful grip necessary for their survival in the wild. One neonate had both forelimbs stuck to its face with residual yolk. A light misting and gentle pull (similar to removing an unshed ocular scale from a snake) temporarily saved this youngster. They were very dark in coloration, with brilliant gray markings. Three had what appeared to be everted hemipenes. (It is my belief that none of these survived.)

Each morning begins with a misting, and all drank on their first full day of life. By the second day all were alert and feeding. After misting, newborn crickets dusted with Miner-All (Sticky Tongue Farms) are placed in the trees. The water makes the crickets temporarily stick to the leaves, allowing the chameleons to gain experience hunting. It is quite a treat to watch them learn to hunt, learn the dimensions of their tongues. Although the act of flicking seems inborn, it definite-

ly does take practice. I watched many a futile attempt during the first few days, and even older juveniles and adults miss.

Undershooting is probably quite common (and quite comical) and should not worry a new keeper. There also seems to be a minimum distance required for a feeding attempt, as they are very intolerant of being crawled upon. I did witness one juvenile make a perfect score of a cricket crawling on another juvenile's face!

Eventually they will need to hunt from a glass. I began their training immediately by utilizing shot glasses placed in the pots under the trees. In the first few days I had to rescue four that had become trapped in the shot glasses (which shows just how small they were) as they explored the limitations of their gangly bodies. They subsequently avoided entering the receptacles.

I believe it is of the utmost importance that the neonates be kept off the bottom of the vivarium, especially at night. Chameleons will seldom move after the light is out, so they are relatively safe if placed in the trees prior to dark. Being on the bottom is very stressful, which makes me wonder why they voluntarily go there in the first place. The bottom of the aquarium also gets cooler at night than the trees, perhaps too cool for juveniles. They will also be pestered by the nocturnal activities of the crickets, which could perhaps greatly injure or even kill a newborn chameleon. Some keepers probably prefer to remove all the uneaten crickets, but I find this impractical. Instead I always leave cricket food in the bottom to occupy their attention and hunger, as well as providing another opportunity for gut-loading. An occasional heavy watering of the trees will flush the crickets from their home in the soil. Perhaps newborn crickets will someday emerge.

It is soon apparent that captive-born juveniles are more comfortable with human presence than their wild-caught counterparts. They sleep frequently during their initial days of life, as if the weight of their oversized heads is too much for their spindly legs and almost nonexistent bodies. Their growth conveniently parallels that of their cricket prey. They constantly crawl on the inside of the screen top, leading to many falls. The plastic vine between trees becomes very active at dusk as the chameleons jockey for sleeping positions. They do not yet show the total site fidelity of the adults.

It was obvious, however, that four of the juveniles were more active, much better hunters, and had a stronger will to thrive than the other five. "Eggface" also had a cleft upper palate, and died within two weeks. After four weeks I moved the other four smallest into a separate tank and provided small crickets and wingless fruit flies. Within three weeks they had all expired, seemingly lacking the will to live. They all seemed to make very few attempts to feed, as if they were overly discouraged by their misses. None of them was larger than 1.25 inches in snout-vent length (SVL) at the time of death. I have wondered many times if there wasn't something I didn't do, or did incorrectly. Next time I will probably separate the weaker ones from the thriving ones earlier. But we must realize that some will just not survive, especially when the mother is small, as is Samantha (4 inches SVL).

Today (17 May 1996, 132 days old) we have one healthy male (3.5 inches SVL) and three healthy female (3.25, 2.75 and 2.25 inches SVL) juvenile Jackson's. By the time he was one month old the male already had noticeably large horns and green coloration. A yellow hue accents his eyes, lips and upper body. The females have a tan background for dark brown and gray mottling. A swath of scarlet decorates their eyes, lips and dorsolateral lines. They have all been moved into a 55-gallon aquarium with two ficus trees separated by a large dried grapevine. The females still frequently climb the inside of the screen top, and we cringe each time they drop to the ground. They will open their mouths to drink from the spray bottle, and I have seen them lapping water from the glass sides and bottom. They have always eaten dusted crickets, with the occasional small mealworm or grasshopper, and have become more accustomed to hunting from glasses placed at the bottom of the vivarium. I make it a point to watch them until the smallest female has eaten. The male has been seen mounting this female on several occasions, but she does not avoid him. The largest female is so plump as to seem pregnant.

The adults seemed to switch personalities after the births. Samantha became the bold, aggressive eater, while becoming much calmer around us. Reggie began leaving the tree daily, so we bought a 5-foot ficus in an attempt to give him more room to roam. This was unsuccessful, which prompted me to think that Samantha's parturition had stimulated him to search for a receptive mate. I had seen him one day with everted hemipenes, but never saw her accept his advances. She later appeared to be pregnant again, more likely from additional stored sperm than from copulation with Reggie. At this time we placed the adults into separate trees, with the idea that a less stressful pregnancy would produce a larger and healthier litter. This was the beginning of the end for Reggie. He stopped eating and drinking, save for our attempts to force electrolyte solution and the occasional mealworm or cricket into him, and died on 8 April. Samantha exhibits all the characteristics of her first pregnancy, having again become a sporadic feeder despite the offering of a varied diet.

Final Considerations

One problem we have encountered is what to do with our chameleons when we travel. Our set-ups are too elaborate to transport to a reptile sitter, and we don't know anyone competent enough to come in and take care of the brood (as if they would!) I am still attempting to modify the drip system, but it would only hold enough water for a couple of days anyway, and the problem of flooding is real. One method I developed was to close the shades and keep the chameleons dark and cool. Bottlecaps of water are also placed in the pots, since I have seen the juveniles drinking off the glass already. Crickets are then strictly confined to the feeding containers. It seems that if they are fed and watered well prior to departure, and have access to food and water if they are willing to work for it, that they should be able to survive for a week or so. I can only hope that I am correct!

This article is definitely a work-in-progress. I have had a difficult time obtaining specific information on the raising of

newborn chameleons, and felt that by compiling my experiences I can impart some useful information to my colleagues. I encourage others to fill in my blanks. Hopefully I will be able to update this story with good news of other generations to come.

Acknowledgments

I wish to acknowledge the many anonymous people we interviewed prior to becoming chameleon keepers. It was their help that gave us the courage to give it a try. I also wish to thank my partner in this and all endeavors, Margo Hull.

Chameleon Bibliography

The above article was constructed from individual interviews prior to becoming a chameleon keeper and personal experience since becoming a chameleon keeper, so the use of citations was inappropriate. I have since amassed the following body of literature which should be helpful for anyone thinking of joining the *Chamaeleo* keepers' club.

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HerPET-POURRI

by Ellin Beltz

Caught smuggling tortoises

“Customs officials in Munich said Monday they had detained a man suspected of smuggling 3,000 rare and protected tortoises from Serbia for an estimated \$327,000 over the past five years. The 32-year-old suspect, an out of work German auto paint sprayer, was detained last week in the city of Augsburg with 328 tortoises in his luggage, ‘stacked up like plates,’ a customs spokesman said. The man had admitted selling around 3,000 of the tortoises since 1991 after having either caught them or bought them cheaply in Serbia. If convicted, he could face up to five years in jail.” [from Reuters Wire Service, distributed via E-mail on July 10, 1996, by Allen Salzberg] The following reaction to the above was sent over the Internet by Dr. Zoran Tadic, Department of Animal Physiology, University of Zagreb, Rooseveltov trg 6, 10 000 Zagreb, Croatia, <ztadic@public.srce.hr> “Well, I am still not very sure this business is not widespread in Croatia. In fact, I am sure the very same thing is going on here in front of our noses. There are two basic factors that probably perpetuate business with endangered reptiles here. The first factor is war. With so much problems coming with war, nobody is interested in what is going on with such “unsignificant” animals. Another factor is that local people learned that these animals are highly prized in Europe so they decided to make the best of it. I am quite sure that the above mentioned guy got the tortoises cheaply in Serbia. They are probably selling them for nothing because average salary in Serbia is estimated to be very low (I was told 50–100 German marks, I do not know if this is true). In Croatia, however, people want to make the best of the selling. I was told by one of the locals in southern Croatia that he sold many tortoises in the last two years for 20 German marks each. He told me that he also sold many snakes to some German citizens who are coming regularly to Croatia each summer. Since this area here is so much influenced by war and its consequences, it is highly unlikely that the situation will improve. I am highly concerned about the protected herpetofauna here in Croatia because of illegal collecting and exporting. Of course, we have laws on this and they should be implemented, but it seems to me that many people here are not very concerned about the future of the herps here.”

Reproductive news

- A male “striped turtle” is needed for a breeding program which hopes to breed this rare species of Yangtze river turtle. Zhao Kentang, herpetologist at the Suzhou Railway Teachers’ College in Jiangsu province, hopes a foreign turtle owner can be found who is willing to donate a male striped turtle to the breeding program. One female is being held at the Teachers’ College. Two other females are in captivity in China. [Indian Express, April, 1996, from Harry Andrews]
- An American crocodile nested in a flower garden on Sanibel Island, Florida. This is the first known nesting on Sanibel, although crocodiles are popping up all over the state. “This is an endangered species success story in progress,” said a wild-

life ecologist at the University of Florida. Only 20 breeding females were counted in 1975; last year 42 were recorded. Researchers estimate the total population is about 450 individuals. [National Wildlife, April/May, 1996, from Garrett Kazmierski] Other new crocodile habitat includes Fort Lauderdale’s neon-lit beachfront strip, Homestead, and Cape Sable—all along canals. One group of three crocs routinely visit a Key Largo restaurant where patrons throw food to them off the dock. [Times-Picayune, New Orleans, LA, January 19, 1996, from Ernie Liner]

- “Toadally trilling” is how you might describe spring evenings at Cedar Bog in Ohio as *Bufo americanus* loudly advertises for mates. The site draws about 6,000 visitors a year including the annual toad tour. The naturalist said, “I talked toads the entire weekend.” [Bucyrus, OH Telegraph-Forum, April 25, 1996, from Bill Burnett]

Two tales of tuatara

- Four Cuvier Island tuataras hatched at Auckland Zoo. Their parents are among the last six known individuals of this species, all of which have been in captivity since 1990. Curiously, the remaining tuatara had been believed to be too old to breed. Tuatara were being outcompeted by introduced predatory kiore; no eggs or juveniles had been reported for several years. Kiore have now been eliminated on Cuvier; juvenile tuatara will be released on the island when they’ve grown up a bit. Another 17 eggs are being incubated at Victoria University—hopefully they’ll hatch, too. [New Zealand Herpetological Society Moko, Autumn (our spring) 1996 issue, from Chris Hibbard and Teejay Thornton]
- A mystery tuatara was found by two medical students at Tutukaka, north of the town of Whangarei, New Zealand. Wildlife officers hoped beyond hope that it might have been a mainland tuatara, but genetic tests proved that it was from an island population. They speculate that it may have escaped from reptile smugglers. Only about 50,000 tuatara of all subspecies and species are known to reside on offshore islands of the New Zealand chain. [New Zealand Press Association from <<http://www.rsnz.govt.nz>> from Wes von Papineau and Kimberley Heaphy]

“Aliens exterminate amphibians”

- Froglog reports: “Fish introductions and aquacultural practices are the most serious threat to upper Midwestern amphibian populations. . . .” from an abstract by Michael Lannoo, DAPTF US Coordinator. [newsletter of the UICN/SSC Declining Amphibian Populations Task Force, May 1996, number 17 <<http://acs-info.open.ac.uk/info/newsletters/FROGLOG.html>> Headline pun from John Baker.]
- “Froggers, taking thousands of pounds of the succulent amphibians from a federal preserve, are plundering the wetlands and endangering birds of prey, environmentalists say. . . . The plunder comes as Congress is considering opening all 508

preserves and wildlife refuges to hunting, fishing and trapping. The House of Representatives last week passed a bill that would allow such recreational uses with little regard to their impact on natural resources. . . . Sixty-seven boats last month . . . took 4,489 pounds of Everglades pig frogs. . . . [A woman] with her husband and two other couples sold a total of 226 pounds of cleaned frog legs [at] \$5 to \$7 per pound. . . . [Big Cypress] camp reeks of dead frogs and flies swarm the gut buckets the froggers say they dump at night into a nearby gator hole. . . . [They kill by] slapping the back of a whimpering frog's skull with a blunt edge of a knife and then cutting [it] up. . . . 'Sometimes, it'll cry like a baby,' she said." [Leesburg, FL *Daily Commercial* April 30, 1996, from Bill Burnett]

- "The National Park Service has banned frog hunting in the Big Cypress National Preserve until bag limits can be set to stop commercial harvesters from hauling off the plump-legged critters by the ton. . . . The ban is a stop gap measure until restrictions can be established." [*Daily Commercial*, May 2, 1996, from Bill Burnett]
- Over a hundred thousand people were expected at "Toad Suck Daze" in Conway, Arkansas, this year, but organizers only had 55 toads procured until the last minute. "Organizers also ended up entering amphibians in more than one race after spraying them down with water. Explanations for the toad shortage varied from cooler weather . . . to a nearly full moon, which may have scared some toads into hiding. . . ." [Memphis, TN *Commercial Appeal*, May 6, 1996, from Bill Burnett]
- To list or not to list (before the election) seems to be the question for Bruce Babbitt's Interior Department. A group called the Save Our Springs Legal Defense Fund (SOS) has filed a federal court case to have the Barton Springs [Texas] salamander listed as an endangered species. "A federal judge ruled in November [1995] that Babbitt violated the Endangered Species Act by failing to decide whether to add the salamander to the list. . . . After an aborted appeal, Justice Department lawyers representing Babbitt are asking [the judge] for several more months to make a decision. . . ." A lawyer for SOS alleged election year politics are what is really holding up the decision. [Austin, TX *American-Statesman*, June 25, 1996, from W. B. Montgomery]

Professional courtesy?

A 2-foot snake fell out of the ceiling of a courthouse in Amite, Louisiana. A New Orleans lawyer picked it up and released it outside. Courthouse workers were upset, but the security guard pointed out "We can't keep snakes out. The metal detectors won't pick up snakes unless they are armed." [Baton Rouge, LA *Advocate*, May 2, 1996, from Ernie Liner] My husband points out that he's never seen a snake with arms yet.

More weird snake stories

- An Erwinville, Louisiana, snakehunter was fatally shot. He hit a bump or a tree branch. His 12-gauge pump-action shotgun fell off the shotgun rack on his three-wheeler and discharged into his chest. Police have ruled out foul play. [New Orleans *Times-Picayune* April 25, 1996, from Ernie Liner]

- The *Alexandria Daily Towntalk* reports that a Rapides, Louisiana, Sheriff's Deputy responded to a call from frantic homeowners who had found a snake in their stove. "The people had already tried turning the gas oven on and roasting it. So we tried poking it with a wire hanger and some concrete wire, but nothing worked until I borrowed a golf club and held down its head," said the deputy who later reportedly cut the black snake's head off with a pocketknife outside the house. [May 14, 1996, from Theron E. Magers]

- A python was implicated in a Spottsylvania County, Pennsylvania, liquor store robbery. One of the suspects had allegedly stashed the proceeds within the animal. Dave Barry comments: "But for the record, most financial advisers do not recommend that you put your money into snakes. . . . The police took it into custody (presumably in a handcuff) and held it without bail for a week. . . ." Nothing was retrieved from the fecal material which was recognizable as anything more than "snake poop . . . so the police were forced to release the snake, although NOT on its own recognizance. . . ." [New Orleans *Times-Picayune*, April 21, 1996, from Ernie Liner]

- A Melbourne, Florida, woman watering the yard thought she heard the neighbor's kitty hissing under a bush. But it wasn't a cat—it was a hooded cobra. The snake had escaped from its keeper, who kept another 40 venomous snakes in sweater boxes. Police shot the snake with a shotgun, then called for someone to identify it. The snake expert they called identified it as a rare albino hooded cobra that he had lent to another fancier for breeding. The fancier was cited for housing wildlife in unsafe conditions, allowing the snake to escape, violating wildlife sanitary requirements and unlawful housing of venomous reptiles. The man had a permit to keep venomous snakes. [*Orlando Sentinel*, May 21, 1996] When the man appeared in front of a judge, he was ordered to find someone else to keep the animals which were relocated to a new home in Ohio. [same paper, June 5 and 12, all from Bill Burnett]

- An attorney for a man who wants to open a snake farm "can't understand why anyone would be opposed to his client's plan to open a snake breeding and venom collection facility in [a rural Florida community]. . . . After all snakes 'don't bark and they don't smell.'" [Orlando, FL *Sentinel* April 26, 1996, from Bill Burnett]

- Vinyl snakes are being sold as a way to keep rabbits and other small animals out of gardens. "While he may look lightning quick, he is actually slower than a slug. He can't move. Consequently, a key to keeping my crop losses low is to relocate the snake every few days. That way, we—the snake and I—will keep our enemies guessing. Is he live or [just] cheap vinyl? . . ." The columnist and his 11-year-old bought the snake. The son blew it up in the car and wrapped it around his head. Rob Kasper continues: "If a passenger in your car has a snake around his head, other drivers become real courteous." They put it in their allotment garden where it seems to be doing a good job, but "he might work better at scaring off car thieves. . . . I might put him in the vestibule of my house. . . . Nobody bothers a snake handler." [Baltimore, MD *Sun* June 15, 1996, from Mark Witwer]

- Two Tallahassee biologists wrote a letter to the editor about *Boiga irregularis*, the brown tree snake, which was accidentally introduced to the island of Guam: “It has already reached at least 10 Pacific islands in less than 15 years. . . . The snake’s high densities— 10,000 to 15,000 per square mile— near villages, seaports, and airports plus Guam’s large volume of international traffic, create ample opportunities for snakes to be passive stowaways. . . . [It] thrives in hot, humid climates. So Florida should be concerned about the Pentagon project to find ways of curtailing [its] movement. . . . Can you imagine what would happen to Florida’s tourism industry when a visitor happens to get up in the middle of the night and finds an aggressive brown tree snake in the hotel bathroom?” [Miami, FL *Herald*, April 11, 1996, from Andy Streit]

- “The Invasion of the Brown Tree Snakes” trumpets the nationally syndicated grade school newspaper *Weekly Reader* sent in by alert reader Robert H. Streit who wrote: [This] “may be old news to most CHS members, but you know we’re on the verge of a new mania when [brown tree snakes] make the front page of our trusty *W.R.* Rabbits, rats and goats have been wreaking ecological havoc all over the world, but it seems to have taken a combination of snake-phobia and tax-phobia to get the public and the Congress interested.”

Thanks for the dandelions . . .

“It’s a fact that every [British] lake has a terrapin [water turtle]—or even worse, a snapping turtle—which started out life in a pet shop,” Nigel Pope, researcher for the “Really Wild Show” on the BBC. The problem of pet shop turtles released into ponds in the U.K. apparently got worse and worse as the Teenage Mutant Ninja Turtle craze resulted in thousands of people buying small turtles and then releasing them “into nature” when they got too big for the little bowl/plastic palm tree housing. Some foreign turtles have reportedly eaten rare British wildlife—including great crested newts. [British Herpetological Society *Newsletter*, Number 12, January 1996, from David Blatchford. Also thanks to John Levell for suggesting the headline.]

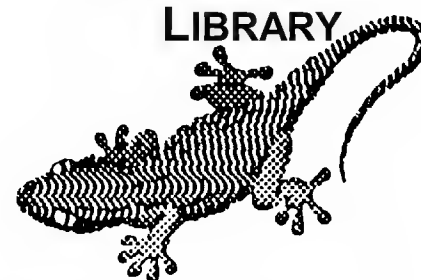
New publication

Brian Gill and Tony Whitaker have just had their new book, *New Zealand Frogs and Reptiles*, published by Bateman Field Guides of New Zealand. The book features color pictures of every species of herpetofauna on the archipelago, a section on six recently extinct species, and keys for identification of living fauna. To order, write a check for \$20 US, payable to the New Zealand Herpetological Society, Inc., and mail to P.O. Box 1, Wellsford, New Zealand. Postage is included. If you are a member of the rapidly growing NZHS, the cost is only \$15 US.

Thanks to our contributors! And to Steve Ragsdale, Ernie Liner, and Ray Boldt for materials I enjoyed reading but didn’t use this month. You can join the 0.026% of the CHS membership who contribute to this column by clipping articles of interest and sending them with their date/publication slug and your name firmly attached to: Ellin Beltz, 1647 N. Clybourn Avenue, Chicago, IL 60614-5507. The best clippings are not

too origami-like. The best clippers save time by using return address labels to put their names prominently on the front and use tape to secure the date slug to the top of the clipping. Other excellent clippers just send the whole page of newspaper (it doesn’t weigh much) and avoid the whole cut and paste problem altogether. Selected contributors (and every new clipper) receive letters and postcards as some small recompense for their participation in this reader-supported column. Letters only to my e-mail address <uebeltz@uxa.ecn.bgu.edu>.

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Herpetology 1996

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editors assume full responsibility for any errors or misleading statements.

TWO SPECIES OF HOUSE GECKO INTERACT

R. K. Vaughan, J. R. Dixon and J. L. Cooke [1996, J. Herpetology 30(1):46-51] studied the introduced house geckos, *Hemidactylus turcicus* and *Cyrtopodion scabrum*, where they exist in sympatry in Galveston, Texas. The nightly perch choices of each species in captivity were recorded, first in species-segregated enclosures, then with species mixed. While segregated by species, *H. turcicus* occupied vertical walls more frequently than ground or rock perches. *Cyrtopodion scabrum* perched predominantly on rocks. While mixed in the enclosures, the proportion of individuals not visible increased independently for both species, while the proportion of both species occupying their respective preferred perches decreased. Perch heights did not differ between species, regardless of whether the species were segregated or mixed in the enclosures. The observed changes in use of space while in sympatry may be due to competitive interference between these two species, and may reflect the situation in Galveston, where *C. scabrum* appears to be gradually displacing *H. turcicus* in areas near the docks, where these two species previously existed in sympatry.

OVERWINTERING BY HATCHLING TURTLES

J. A. DePari [1996, Chelonian Cons. and Biol. 2(1):5-12] studied overwintering in the nest chamber by hatchling painted turtles (*Chrysemys picta picta* × *marginata* intergrades) in northern New Jersey (40°42'N, 74°28'W). During a four-year study (1983-1987), hatchlings in 86% (38/44) of monitored nests delayed emergence until the spring of the year following oviposition. Natural emergence from overwintered nests occurred an average of 314 days following nesting. Hatchlings in 14% (6/44) of monitored nests emerged in the fall of the same year, averaging 106 days from nesting to emergence. Substrate was found to be a significant factor influencing nest status, with proportionately more hatchlings in soil nests overwintering and more hatchlings in sand nests emerging in the fall. Nests constructed in the laboratory paralleled the relationship of substrate to emergence. Direct association of precipitation with hatchling emergence was observed in natural nests in both fall and spring. Minimum recorded natural nest temperature was -10.5°C. Hatchling mortality attributed to winter kill and spring flooding was low, accounting for only 4.3% of total mortality.

A NEW LIZARD SPECIES FOR EUROPE

A. Venchi and M. A. Bologna [1996, Amphibia-Reptilia 17(1):89-90] report that during a recent expedition to Turkish Thrace one of the authors collected the lizard *Lacerta parva*, which has never been recorded before in Europe. This Anatolian species is included in some general reviews of and field guides to European reptiles, but all Caucasian records cited have been from Asia.

MOONLIGHT AND RATTLESNAKES

J. A. Clarke et al. [1996, J. Herpetology 30(2):192-197] investigated the effect of moonlight on the nocturnal activity patterns of prairie rattlesnakes (*Crotalus viridis viridis*). The effect of simulated moonlight on six adults and eight juvenile prairie rattlesnakes was tested under laboratory conditions in which temperature, feeding frequency, and photoperiod were controlled. The snakes were maintained and tested under a summer photoperiod of 14L:10D h cycle. The activity of each snake was measured using an index of tracking in the sand floor of a test chamber under simulated new, half, three-quarters, and full moon light (0.06, 0.35, 1.00, and 2.10 lux, respectively). Adult snake activity was significantly greater in new moonlight (starlight only) when compared to activity in three-quarter and full moonlight. The adults also significantly increased activity in open areas in dim moonlight. Variations in simulated moonlight had no effect on the activity of the juvenile rattlesnakes or in their use of edge and open areas. Bright moonlight avoidance by adult snakes may be a strategy that reduces detection by visually hunting predators and may also be influenced by the activity patterns of their nocturnal rodent prey. The lack of moonlight avoidance by juvenile rattlesnakes may be related to utilization of nocturnally inactive prey, such as lizards and neonatal rodents.

CANADA GEESE FEEDING ON AMERICAN TOADS

P. Trochlell and D. J. Watermolen [1995, The Passenger Pigeon 57(3):199] report observations of Canada geese (*Branta canadensis*) feeding on newly metamorphosed American toads (*Bufo a. americanus*). Two adult geese were observed foraging near a small, man-made pond in northwest Dane County, Wisconsin in June 1994. The geese were feeding on newly metamorphosed toadlets emigrating from the pond. The geese appeared to cue in on the movement of the hopping toads, which were quickly picked up in the bill and swallowed whole in a single movement; they did not seem to be affected by the distasteful alkaloid skin secretions of the toads.

THE *BOTHROPS ATROX* COMPLEX IN BRAZIL

W. Wüster et al. [1996, Herpetologica 52(2):263-271] analyze the systematics of pitviper populations normally assigned to the species *Bothrops atrox*, *B. moojeni* and *B. marajoensis* using multivariate analysis of morphological characters. Most populations of *B. moojeni* are clearly distinct from *B. atrox*, but there are phenotypically intermediate populations where the ranges of the two forms meet, suggesting the existence of a hybrid zone. The status of the populations currently assigned to *B. marajoensis* remains uncertain, as the populations assigned to this species are heterogeneous and poorly differentiated from *B. atrox*. This study confirms the results of previous workers, who found low levels of divergence within the *B. atrox* species complex.

AMETHYSTINE PYTHONS FEEDING ON RAINBOW BEE-EATERS

K. A. Loop [1995, *Memoirs of the Queensland Museum* 38(2):504] reports observations in the wild of an amethystine python (*Morelia amethystina*) eating rainbow bee-eaters (*Merops ornatus*). The observations took place on Milman Island, a vegetated sand cay located approximately 112 km southeast from Thursday Island, Torres Strait, and 45 km northeast from Orford Ness, Queensland, Australia. From 18 to 23 March 1994 the author observed up to four amethystine pythons simultaneously stretched out on the defoliated branches of a shrub, *Premna serratifolia*. The snakes appeared camouflaged, their bodies curving so they blended with branches of the shrub. An adult rainbow bee-eater was seen within the coils of a python at 0645 h on 19 March. The bird was subsequently swallowed. On 21 March at 0815 h the same python caught and swallowed a juvenile rainbow bee-eater. Rainbow bee-eaters are a migratory species in the western South Pacific area; they move from their southern breeding areas in Australia to overwinter in Torres Strait and Papua New Guinea. It is not known how long the bee-eaters stay at Milman Island. Because there are no mammals on Milman Island, when the bee-eaters are not present the pythons must prey on other species. The pythons probably feed on other birds, including ground-nesting species, although consumption of these other species has not been observed.

SPACING AND INTERACTION IN BLACKBELLY SALAMANDERS

C. D. Camp and T. P. Lee [1996, *Copeia* 1996(1):78-84] studied spacing and interactive behavior in a population of *Desmognathus quadramaculatus* in Georgia. During 1991, 132 metamorphosed salamanders (35–109 mm SVL) were marked and released; 207 recaptures were made of 87 individuals. Mean home-range area was 1207 cm², and mean salamander density was 1.4/m². Smaller salamanders (< 70 mm SVL) predominated in the stream, and larger ones occurred more frequently in the stream bed between the water line and the forest. Smaller individuals spent more time wandering whereas adults remained in refugia. Preferred refugia were rock crevices; larger salamanders also commonly used burrows at the bank/water interface and in the dirt banks of the stream bed. Spacing of home-range centers did not differ from random; spacing of individual salamander locations was contagious. In interactive experiments performed in the field in 1994, adults ate juveniles, and juveniles fled from adults. Individuals in refugia reacted aggressively toward intruders regardless of body size differential. Wandering salamanders of similar size were aggressive approximately 50% of the time. *D. quadramaculatus* defends a territory of repeatedly used refugia, from which it excludes conspecifics through a probable combination of pheromonal advertisement and aggressive interference, with cannibalism being the ultimate aggressive response. Individuals outside refugia exhibit a series of aggressive and escape behaviors with small salamanders avoiding large ones, as well as their microhabitat. The spacing patterns observed do not fully fit predictions based on current models of spatial interactions of *Desmognathus*.

COMBAT IN ISLAND TIGER SNAKES

M. Firmage and R. Shine [1996, *Amphibia-Reptilia* 17(1): 55-65] note that male-male combat occurs in mainland populations of tiger snakes (*Notechis scutatus*), but that authorities have disagreed as to whether or not this behavior also occurs in island tiger snakes (*Notechis ater*). They confirm that intraspecific combat frequently occurs between island tiger snakes maintained in captivity. Two different kinds of combat bouts were observed. They interpret the first type (ritualized “wrestling” matches between large adult males) as sexual competition. This behavior was seen in snakes from each of the island populations investigated, including Tasmania. Agonistic behavior was exhibited by females and juveniles as well as by adult males: however, this second type of combat was always initiated by the introduction of food items to the enclosure, and incorporated vigorous biting as well as (or instead of) wrestling. Further observations, in the field as well as in captivity, are needed to interpret the functional significance of this behavior. The food-induced combat may be an artifact of high densities of captive snakes, or alternatively may be exhibited in the wild also. The authors speculate that the high abundance of tiger snakes on some islands, and the highly clumped nature of prey resources (e.g., muttonbird chicks) in both space and time, may have favored direct interference competition for prey items between island tiger snakes. If so, some elements of the social system of island tiger snakes may resemble the condition seen in many lizard species, rather than in other snakes.

SEA TURTLE NESTING IN BRAZIL

M. A. Marcovaldi and A. Laurent [1996, *Chelonian Cons. and Biol.* 2(1):55-59] provide a summary of information obtained by Projeto TAMAR at Praia do Forte, Bahia, Brazil, over six sea turtle nesting seasons (1987–93). Four species of marine turtles nest there. The information includes relative abundance and size of nesting females, seasonal and spatial distribution of nesting, hatching success, emergence period, and clutch size. The Praia do Forte field station protects a total of 43 km of coastline, divided into an intensive study area of 14 km and two conservation areas of 10 and 19 km. Eggs from nests in the conservation areas were transferred to an open air hatchery emulating natural conditions, and nests in the intensive study area were monitored in situ. *Caretta caretta* (1932 nests) and *Eretmochelys imbricata* (265 nests) were the most abundant species, together constituting more than 90% of total nesting. Other species nesting were *Lepidochelys olivacea* and *Chelonia mydas*. The overall nesting season for all species extended from August to April, but peak nesting for *C. caretta* was October–December and for *E. imbricata* January–February. Nesting occurred more frequently at sites along the beach where fringing reefs were not present and where the beach was wider. The emergence period for in situ and transferred nests was about the same, but hatch success was usually higher in situ. Hatch success was also significantly higher when eggs were transferred less than 6 hours after oviposition. Comparison of hatchery and in situ nests shows an open air hatchery emulating natural conditions to be an adequate conservation tool in areas where threats to natural nest survivorship are high.

The Tympanum

26 June 1996

The purpose of this correspondence is to regrettably inform . . . the CHS Board of Directors of my plans to resign from the office of President.

I have recently been promoted within Abbott Laboratories and have been given numerous additional responsibilities, many of which directly conflict with my duties as President of the CHS. For this reason I feel it is in the best interest of the Society that I resign.

In addition, I will unfortunately have to resign as Chairman of the Grants Committee. I would like to recommend Byron DeLaVarre as a possible replacement for 1997. Byron has served on the Grants Committee for a number of years.

I have thought long and hard on the issue, but I strongly feel, given the circumstances, that I have made the right decision. Furthermore, I am truly sorry for any inconveniences this decision may bring upon the Society.

Best wishes to . . . the Society in all future endeavors!

**Anthony J. Rattin, Pharmaceutical Products Division,
Abbott Laboratories, One Abbott Park Road, Abbott Park
IL 60064-3500.**

Four Responses to Jeff Boundy's Letter in the July *Bulletin* [Tympanum, Bull. Chicago Herp. Soc. 31(7):138-139]

Jeff Boundy's recent letter to CHS is as full of misstatements, misinformation, and faulty reasoning as he claims CHS's letter against Louisiana's request for a box turtle export quota is.

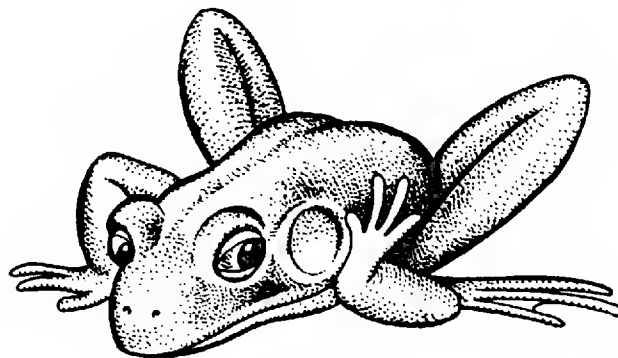
As someone who researched and co-wrote the action alerts that Boundy claims were "parroted" and full of misinformation, I want to state that those alerts were based on peer-reviewed papers and interviews with experts on box turtles and turtle population dynamics.

If Boundy has an argument with the alerts, he should not hide behind vague accusations. He should instead supply solid facts to bolster his statements, and present those facts to the experts I quoted in my alerts.

These experts include Dr. John Behler of the Wildlife Conservation Society, Dr. Peter Pritchard, author of *Encyclopedia of Turtles*, Dr. Kenneth Dodd of the U.S. Biological Service, and Drs. Whit Gibbons and Justin Congdon, both of the Savannah River Ecology Lab.

These scientists have over 100 years of combined field work on turtles. While their work has withstood years of peer review, Boundy himself has refused to allow his on-going study of Louisiana box turtles be peer reviewed. This resulted in the resignation of the grad student who was hired to do much of the field work.

As for the make-up of the LRATF. This group was set up at



the suggestion of Buck Prima, a major dealer of box turtles, reptiles, and amphibians. Prima worked with his state senator to set up this group, in order to protect his business. Prima is a permanent voting member of the LRATF and has reminded the Task Force in many meetings of its role in protecting his business.

By mandating who could be a member and who could vote, the Louisiana legislature, whether it knew it or not, designed the actual voting structure of the Task Force to further insure its pro-industry slant.

No herpetologist not connected to the industry or the government has ever had a vote. (This will hopefully change next year, as promised by Johnnie Tarver of the Louisiana Department of Wildlife and Fisheries.) If one reviews the group's attendance history, many of Boundy's so-called "non-industry members" have rarely shown up, thus tilting the majority to pro-industry members.

As for herpetologists resigning due to professional obligations, Boundy was obviously not listening very hard when the last herpetologist, Dr. Harold Dundee, the ex-chair of the Task Force, read out his letter of resignation at the last meeting. I quote, "I simply do not feel that my views are compatible with the objectives that the Task Force has set out to achieve, especially the sustained harvest."

Boundy also claims, falsely, that "no issue has passed without approval of these 'non-voting' members." If this were so, then why did Dr. Dundee feel the need to write his own letter to USF&WS, not as the Chair of the Task Force, but as an individual herpetologist, to oppose the Task Force's request for a quota?

Boundy goes on to state that Gulf Coast box turtles are more fecund, and so can withstand greater harvesting pressure, than other turtle species. He states that this information is based on published data. However, he does not cite his source.

The data I found state that five clutches (the average is two per year) is the record for this box turtle. This information comes from *Turtles of the United States and Canada* by Carl Ernst, Jeffrey Lovich and Roger W. Barbour, 1994, page 261.

Unfortunately for Boundy's argument, the text goes on to state that although box turtles do lay multiple clutches, not all eggs are fertile. In fact, some nest fertility rates have been found to be as low as 54% and 24%. Some are totally infertile.

Further, in his on-going peer-reviewed study of Florida box turtles, Dr. Kenneth Dodd has shown that clutch sizes are smaller in southern turtles than in northern conspecifics, and that only a percentage of the population double clutches or even reproduces in any one year.

In Dr. Dodd's letter to the USF&WS opposing the Louisiana quota, he concludes that although multiple clutching has been

documented in Louisiana box turtles, “I can find no literature reference to support the assumption that ‘increased’ annual frequency of reproduction allows resilience to ecological disturbances.” Disturbances such as the large-scale collecting of adults proposed by Boundy.

In conclusion, I don’t want to give the impression that I am against the idea of the Task Force. I object, however, to the way the Task Force was set up and run. According to Dr. Dundee’s letter of resignation of May 21, 1996, the Task Force was set up to “develop guidelines that would allow commercial dealers and collectors who collected specimens to sell to the dealers to continue their activities on a sustained harvest basis.”

This is a noble goal. Unfortunately, it is not the Task Force’s goal. **Allen Salzberg, Member of the Board of Directors, The New York Turtle & Tortoise Society, 163 Amsterdam Ave., #365, New York NY 10023, <ASalzberg@aol.com> .**

This past spring, the U.S. Fish and Wildlife Service (USFWS) rejected a proposal that would have allowed commercial reptile dealers to export at least ten thousand wild-caught box turtles (*Terrapene carolina*) from the state of Louisiana. Since this species is on Appendix II of the CITES treaty, the exporters and the state were required to show that such trade was sustainable and would not be detrimental to the species. Public comment was solicited by the Service, and a number of professional herpetologists and other knowledgeable persons reviewed the information supplied by Louisiana and made recommendations. Public record shows that this commentary was largely critical of the export proposal.

In his recent letter to the CHS *Bulletin*, Jeff Boundy, a biologist with the Louisiana Department of Wildlife and Fisheries, seems quite concerned that many of the people commenting on the proposal had no first-hand experience with Louisiana box turtles, and suggested that results of studies elsewhere might not apply to Louisiana. Apparently Mr. Boundy and his associates also feel that they don’t need any input from outside their state, since their response to the USFWS ruling was to request exemption of Louisiana box turtles from CITES protection. This request is regrettable and demonstrates a provincial attitude that is rather quaint when applied in a social context, but has no relevance in biology or wildlife management.

I should note here that the CITES ruling only affects overseas export and does not limit domestic trade. One can still walk into pet shops across the country and find three-toed or Gulf Coast box turtles for sale (usually in a sickly or near-death condition, but that’s another issue); many of these could have originated in Louisiana. As an aside, I also note that one of the reasons for the lucrative market for American box turtles overseas is that native European and Asian species that used to fill local demand are now badly depleted [and] often protected!

There is little reason to predict, at the outset, that Louisiana box turtles would have significantly different life history parameters than those elsewhere. Practically all long-term studies of long-lived, slow-maturing turtle and tortoise species

(whether done in the temperate north or the tropics) reveal populations characterized by a relatively high annual survivorship of mature animals, along with a comparatively low rate of juvenile recruitment and low population turnover. (Relevant literature references are available on request.) These factors do not preclude the possibility that such species can build up very high population densities under ideal conditions; thus we need not be impressed that Louisiana box turtles can be locally abundant. We also know that an initially large population is no protection against eventual collapse in the face of heavy exploitation (e.g., passenger pigeons and ridley sea turtles).

In turtle populations with the above attributes, however, one can reliably predict that increased losses of older juvenile and mature animals (beyond “natural” mortality levels) will lead to inevitable population decline. Mr. Boundy noted that about fifteen percent of the box turtles reported in their preliminary studies were juveniles. He attributed this low percentage to the young ones being harder to find, but it is equally probable that this statistic is close to reality, since a “top heavy” population structure is what one would predict based on previous studies.

In Mr. Boundy’s letter, and in previous Louisiana statements to the USFWS, a great deal is made of the fact that the Gulf Coast box turtle may be a bit more fecund (i.e., lay more eggs) than northern subspecies. In the absence of additional, long-term data, this statistic is meaningless. It’s quite possible that Louisiana turtles have to lay more eggs just to keep up with a higher natural mortality rate. After all, certain marine turtles may lay hundreds of eggs per year, divided among several clutches, and still have trouble compensating for natural losses and human persecution. Clutch size or frequency does not correlate with tolerance of exploitation.

Mr. Boundy emphasizes on-going research in Louisiana, but he and others in the Louisiana Department of Wildlife and Fisheries seem unwilling to wait for the results before going ahead with mass collection and exportation. Have they already decided what the results will be? Additionally, we are still waiting to see a detailed research protocol assuring us that these studies will be conducted in a rigorous, scientific manner, and will actually lead to viable conclusions on the long-term sustainability of box turtle harvest.

We have much to lose if the Louisiana turtle harvest (perhaps combined with other factors such as pollution and habitat destruction) should eventually lead to a collapse of certain box turtle populations. The Gulf Coast box turtle (*Terrapene carolina major*) in particular is a unique animal (as Mr. Boundy himself implies) with a very narrow and restricted range, and specialized habitat preferences. *T. c. major* is the largest subspecies of *T. carolina* and is the closest living relative of the extinct giant ice-age box turtle, *T. c. putnami*; field and genetic studies of this form might teach us much about past and present box turtle biology. This is also the subspecies that bears the brunt of the trade and is systematically hunted within a very circumscribed area in southeastern Louisiana (according to the data given the USFWS during the review). It is thus predictably much more vulnerable than the more widespread three-toed box turtle (*T. c. triunguis*).

If Mr. Boundy and the other members of the Louisiana Amphibian and Reptile Task Force could demonstrate that removing thousands of box turtles from the Louisiana population each year would not affect turtle numbers over a reasonable period of time, it would lend considerable support their export request. This would, by definition, mean that these harvested turtles would have been lost to natural forces anyway (that is, were part of an expendable reproductive “surplus”), or alternatively, that the removal of adult animals leads to a sudden increase in survivorship for eggs and the younger age classes. This is, after all, what “sustainable harvest” meant back when I was taking wildlife management classes. If Mr. Boundy and the LARTF have a different working definition of “sustainable,” I would like to hear it.

In reading Mr. Boundy’s letter (and other documents sent to the USFWS and now public record), it seems that there is some resentment over the interference of non-Louisianan biologists and the Federal Government into the wildlife management decisions in Louisiana. But I must inquire if Mr. Boundy (as a biologist) doesn’t equally resent the obviously biased interference of bureaucrats and commercial animal dealers into decisions that ought to be based purely on biology and the need to conserve and protect a valuable public resource? **James Harding, Box 562, Okemos, MI 48805, <jharding@museum.cl.msu.edu> .**

Several comments have recently appeared in the Chicago Herpetological Society *Bulletin* concerning the position of the Louisiana Reptile and Amphibian Task Force regarding the export of box turtles and the voting rights of the university professors on the Task Force. Here are my observations and some quotes from Task Force minutes.

I attended all the meetings of the Task Force from May 1995 through May 1996 and examined the Jan. 1995 through April 1995 minutes. No meetings were held between October 1994 and January 1995.

According to the Task Force minutes of January 1995, the Louisiana Dept. of Wildlife and Fisheries mentioned to the Task Force that box turtles had been placed in Appendix II. I understand that at this meeting (and possibly an earlier meeting) the Task Force had some discussion about Louisiana’s box turtles, but that the Task Force did not come to any consensus as to whether or not eastern box turtles were threatened in Louisiana. I do know that from May 1995 till the present, the Task Force’s members have been sharply divided on that question. The minutes of the April 1995 meeting state “the LDWF did not believe there was a problem with the box turtle populations in Louisiana.” Note that the “belief” is that of the LDWF, not the Task Force.

There is some debate concerning the votes of the Herpetologists from the Universities. The act of the Louisiana Legislature that formed the Task Force specified which members would have a vote. The Task Force lacks the authority to change the voting status of its members.

During the meetings from May 1995 through May 1996, I never saw a university professor cast a vote. In June 1995 a

motion was made to try to secure voting rights for the university professors. The minutes state that one member “countered that the LRATF was created to assist the reptile industry, not universities.”

When voting rights for the professors was brought up again January 1996, the minutes recorded that a member “immediately opposed handing out votes due to Dr. Dundee’s sentiment that academics would shut down the reptile industry.” But, after debate, the Task Force voted to ask the Louisiana legislature to grant voting rights to the professors. The legislature cannot act on this before 1997.

I hope that this will help members of the CHS better understand the Task Force’s position on box turtles. **George M. Patton, 2022 Gemini Drive, Bastrop LA 71220-3467.**

I must comment on the letter to your publication from Jeff Boundy. His view of events is incredible. As a member of the public interested in the future of the box turtle, I attended several recent meetings of the LRATF (Louisiana Reptile and Amphibian Task Force).

In response to the USFWS published request for comments, I submitted a critique of Boundy’s “Status of Box Turtles in Louisiana, First Quarterly Report” along with my recommendations NOT to allow the export.

Along with a detailed critique of some of his points, I said that my impression of the study was that it was a good start but Boundy’s conclusions were not supported by the data. His letter to you suffers from the same problem.

I recently read the text of his response to USFWS’ “Advice,” after the quota was set at zero. His “Request for Removing Louisiana Populations of *Terrapene carolina* from CITES” decries the use of data from out of state, but he fails to supply significant new data from in state.

I attended the meeting where Dr. Dundee presented his resignation. I have a copy of his letter of resignation in hand. Boundy was at that meeting. Dr. Dundee read the letter aloud to us. Boundy probably received a copy too.

If Boundy could hear Dundee and conclude, “. . . the herpetologist who resigned did so because of increased professional duties, not because of differences of opinion” then all Boundy’s conclusions and data are called into question.

Dr. Dundee’s letter says, among other things, “. . . what is happening has brought me to the conclusion that pressure from commercial harvesting and sale of reptiles and amphibians is another factor that is hurting that precious heritage of the diversity of life. I simply do not feel that my views are compatible with the objectives that the Task Force set out to achieve, especially the sustained harvest.” Dundee goes on to say, “Adding to my decision are such things as failure of our group to effect what I consider to be the most basic study needed to determine the status of reptile and amphibian populations. . . .” Nowhere does Dundee make any statement that I can read as implying that his resignation is due to increased professional duties.

Since Dundee is the only recent resignation, there is little doubt who Boundy should be talking about. The only explanation that I can venture is that Mr. Boundy is blinded by his pro-commercial-interest prejudice.

Boundy says in his letter to you, "Aside from these novel data, only anecdotal data are available for this subspecies in Louisiana. The Gulf Coast box turtle is more aquatic than other subspecies of *T. carolina*, and published data indicate that it is more fecund."

I live in Baton Rouge, Louisiana. I have a background in science with a BS in chemistry. I have been keeping box turtles since 1986, most rescued from roads or hatchlings from eggs laid by these. This summer's egg count is 83.

The Gulf Coast and three-toed subspecies are native to this area. I find that many wild Gulf Coasts have some kind of fly-larva infestation. This is not always initially visible. The infestation may become apparent within a few weeks of capture. The cysts usually heal quickly after the maggots are removed; however, infected turtles are at increased risk of stress-induced illness and death. Export raises the possibility of exporting a dangerous parasite.

My observations of my captive-bred box turtles are consistent with out-of-state data. I find that less than half the eggs hatch. Out of 88 eggs laid last summer, 28 hatched and 14 remain alive. Despite good feed and a sheltered environment, mortality is high. . . .

Boundy says, "It appeared that none of the turtle biologists responding to the USFWS export proposal had any experience with Louisiana box turtle populations. It is doubtful that data based on other subspecies of *T. carolina*, or from populations in northern climates and habitats, can be unequivocally applied to *T. c. major*."

Extraordinary claims require extraordinary supporting data. Boundy's theory that Louisiana's populations are greatly different from others is extraordinary. He must supply a lot of data to support it.

The theory is that species such as the box turtle, which show high mortality rates among the young, and display long reproductive lifetimes are especially vulnerable to losses of large

numbers of reproductive age individuals.

Boundy proposes that the theory is wrong when applied to Louisiana's box turtles. The burden of disproof is upon him. He must disprove the theory.

Boundy says, "Observations by myself and other Louisiana biologists indicate that *T. c. major* is abundant, and remains common in areas that have been harvested for box turtles."

Boundy seems to be rather free with his interpretation of the observations of "other Louisiana biologists."

In Boundy's "Response to USFWS Advice" he says "both Dr. Rossman and Dr. Dundee have at least 30 years of experience with box turtles in southern Louisiana. If populations were vanishing, they would have noticed." However, Dr. Dundee, in his letter of 16 February, 1996 to USFWS opposing the export of the box turtles, says "I can not provide you with verified contrary data to Prima's but like so many professional herpetologists I have that strong impression that 'You just don't see herps in the abundance that we used to.'"

I can see no way that Dr. Dundee's comments can be reconciled with Boundy's use of them.

The population [age] distributions found by Boundy and myself and those found out of state, are all consistent with high mortality rates during the first five years of life, with chances of survival slowly increasing into adulthood. Adults have few predators except man, and have been shown to continue to lay eggs for scores of years.

This kind of population distribution has been known to show an apparent steady population followed by a sudden crash when large numbers of adults are removed from the wild over a period of years. (see "FACTS from the U.S. Fish and Wildlife Service, THE BOX TURTLE" by Marshall Howe, March 21, 1996)

Unless Boundy or others can show that the wild population distribution is consistent with high survival rates to adulthood, then there is no way that a sustained take of adults can be justified. **Robert R. Zinn, Programmer, Department of Chemistry, Louisiana State University, Baton Rouge LA 70803-1804, <Bob_Zinn@chemgate.chem.lsu.edu> .**

Unofficial Minutes of the CHS Board Meeting, July 19, 1996

The meeting was called to order at 8:05 P.M. Board members Anthony Rattin and Jenny Vollman were absent.

Officers' Reports

The minutes of the June board meeting were read, corrected and accepted. The Treasurer's Report was distributed and accepted. John Driscoll reported that the CHS currently has 1444 members.

Committee Reports

Captive Bred Animal Sale: Tonya Maris announced that 27 tables had been promised and/or sold to date. She briefly gave the board a rundown of vendors and breeders. The show is to be advertised in the *Reader* and *Trading Times*. Flyers were also inserted in the July CHS *Bulletin*.

Legislative: Chris Lechowicz had no report.

Library: Jenny Picciola informed the board that the bylaw revision project is on the back burner due to the load of upcoming CHS events.

Shows: Gary Kostka said that all plans were set for the Shedd Show and that he received numerous volunteers from the CHS membership. Show dates are September 27-28.

Director of Sales Report

Joan Moore reiterated her intent to resign from this position.

Old Business

Jenny Picciola has sent out numerous requests for raffle donations.

Acting President Chris Lechowicz appointed a committee to sort out the details of the book service and its future. The committee consists of Joan Moore, Jack Schoenfelder, Ron Humbert and Chris Lechowicz.

There was a discussion on the floor regarding the declining membership of the CHS, with many comments and suggestions. Acting President Chris Lechowicz suggested an informal meeting to discuss the future direction of the CHS. The meeting will take place at the home of Jill Horwich, Friday August 23, at 7:30 P.M. All interested parties are welcome.

New Business

President Anthony Rattin has submitted a letter of resignation to the board [see "The Tympanum"]. The letter also includes his resignation as Grants Committee Chairperson. Jack Schoenfelder moved that the board accept this letter as Anthony Rattin's formal resignation. The motion was seconded by Brian Jones and passed unanimously. Vice-president Chris Lechowicz assumed the office of president. Chris appointed Steve Spitzer to the now-vacant office of vice-president. Jack Schoenfelder moved that the board accept this appointment. John Driscoll seconded the motion and the board voted unanimously in favor. The appointment must be ratified by the

general membership. Chris then appointed Jenny Picciola to the vacant member-at-large position. Jack Schoenfelder moved that the board accept this appointment, with Brian Jones seconding. The vote was unanimously in favor. Again the appointment must be ratified by the general membership.

Chris Lechowicz appointed this year's nominating committee. The committee comprises Tonya Maris, Gary Fogel, Gary Kostka, Claus Sutor and John Ihrig. John Ihrig will chair.

Round Table

Ron Humbert had some information on adopting some animals that had been confiscated from a Wisconsin pet shop.

Joan Moore had some comments on the CHS elections procedure and would like to have this year's vote tallies announced publicly at the time of the elections. The consensus of the board was that CHS policy is for any vote tally to be made available to any member desiring the count. It was acknowledged that there has been some confusion on this point in the past.

Sergeant-at-arms Art Nohlberg and the members-at-large were reminded that this year's awards committee needs to be organized.

Claus Sutor set forth a discussion on our voice mail. Apparently there have been many unanswered calls last month for various reasons.

Chris Lechowicz informed the board that he, Joan Moore, Mike Dloogatch and Bill Peterson would be on the radio show "For Animal Lovers Only," on Saturday, July 20.

The meeting was adjourned at 11:00 P.M.

*Respectfully submitted by the Recording Secretary,
Audrey Vanderlinden*



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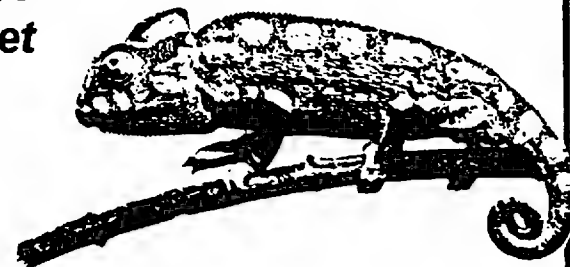
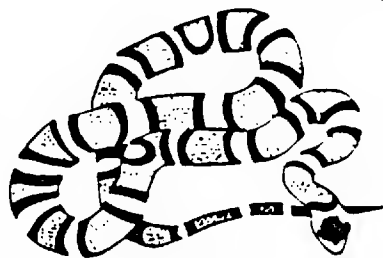
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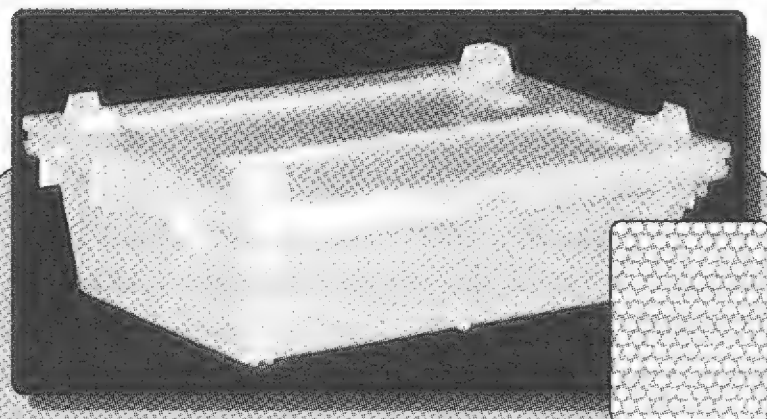
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For sale: back issues of herpetological society newsletters—NOAH, Chicago, Southwestern, Minnesota, Arizona, several others, most starting back in 1991. Also *Vivarium*, *Reptile & Amphibian*, *Captive Breeding*, and *Reptiles* magazines. Bill Gillingham, Lodi CA, (209) 368-1304 (7–10 P.M. PST).

For sale: amphibian and reptile books. New, out of print and rare, over 4500 listed. My new 1996 96-page general natural history book list, which includes herpetological books as well, is also available. Send \$2 for postage, refundable with any purchase, to: Herpetological Search Service & Exchange, 117 E. Santa Barbara Road, Lindenhurst NY 11757.

For sale: my own babies. Captive-born juvenile fire-bellied toads, *Bombina orientalis*, to responsible homes, for pick-up only at my home (Evanston) or CHS meetings, \$8 each, \$5 each for three or more. Care sheet included. Ilene Sievert, (847) 864-5513.

For sale: Red-cheeked mud turtles (*Kinosternon scorpioides cruentatum*), all females, \$80 each; striped-neck turtle (*Ocadia sinensis*), \$20; Kwangtung River turtles (*Chinemys kwangtungensis*), \$150/pair; mata mata turtles (*Chelus fimbriatus*), adult pair \$1300, 6" subadults, \$350 each; four-eyed turtles (*Sacalia bealei*), \$30 each; female Pan's box turtle (*Cuora pani*), \$250 each; male Vietnamese wood turtle (*Geoemyda spengleri*), \$75; one pair of white-lipped mud turtles (*Kinosternon leucostomum*), \$50; female spotted turtle (*Clemmys guttata*), not sold where protected, \$95; two male and two female European pond turtles (*Emys orbicularis*), \$125/pair; two male and two female black-knobbed map turtles (*Graptemys nigrinoda*), \$125/pair; one male and two female striped mud turtles (*Kinosternon baurii*), \$35/trio; one male and one female alligator snapping turtles, pinkish-red coloring, neat, not sold where protected, \$175/pair; one male and one female Malayan box turtles (*Cuora amboinensis*), \$45/pair; one male and one female New Guinea snapping turtles (*Elseya novaeguineae*), \$80/pair; subadult red-bellied shortneck turtles (*Emydura subglobosa*), \$60 each; one male and one female yellow-bellied sliders, not sold where protected, \$40/pair. Bill, (414) 628-0066. [WI]

For sale: Available now: baby-young Aldabra tortoises, 2½–10", absolute gems! Also, adult breeder Savu pythons, 2+-year captives and high-yellow striped ball pythons, beauties! Inquire. Also expected in 1996: Pythons—womas, blackheads, rings, jungle carpets, bloods, Children's and green trees. Boas—Hogg Islands, Madagascar trees, Brazilian rainbows, Bolivian and Brazilian redbills, emerald trees, Dumeril's and sand boas. Tortoises: Aldabras, redfoots, marginateds, leopards and Hermann's. Lizards—leucistic leopard geckos. If you're not already on my mailing list, please send a one-time fee of \$3 for 1996 list, all future lists and color photos. Hours: 9 A.M. – 6 P. M., Mon–Fri; Sat 9 A.M. – Noon Eastern Time. Dick Goergen, P.O. Box 225, Alden NY 14004, (716) 681-4518.

For sale: two male and one female adult leopard tortoises, \$650; one male and one female adult redfoot tortoises, \$250. All healthy long-term captives. Mark, (612) 822-7996. [MN]

Advertisements (cont'd)

For sale: **redfoot tortoises**, yearlings, \$175, 2-year-olds, \$200. Marc, (708) 597-6172.

For sale: c.b.&b. animals—4½" *sulcata*, \$150; 2-year-old female ornate uromastyx, \$125. Joe, (708) 450-1614.

For sale: captive-bred Dumeril's monitors, *Varanus dumerilii*, \$330 (10% discount to herp society members, \$297). Unrelated bloodlines hatched January '96 and May '96. Mike, (770) 987-3933. [GA]

For sale: A GREAT INVESTMENT. Captive born and raised breeding group of adult leopard geckos, 50 males and 200 females, \$60 each for group. Smaller groups available. MC/VISA accepted. Bill Brant, (352) 495-9024.

For sale: Moroccan uromastyx (*Uromastyx acanthinurus*), excellent pets and study animals, turn deep shades of yellow, orange, green, red when they mature, very tame and intelligent. Also, one male and one female rhino iguanas; one male and one female Cuban rock iguanas. All captive-bred. Inquire evenings. Mike, (708) 895-4336.

For sale: four captive raised Timor monitors, \$375; two large reptile cages with glass fronts and lighting; 5-, 10- and 20-gallon aquariums with screen tops. Dan, (312) 275-4716.

For sale: Beautiful, captive-born babies. Bearded dragons, many unique color morphs, \$35–125; veiled chameleons, \$35–60; panther chameleons, \$60–75; leopard geckos, \$20–30; northern bluetongue skinks, call for price. Also expecting frilled lizard babies. Call for prices as well as other available herps. Conveniently located in Chicagoland area. We ship nationwide. **Midwest Reptile Farm**, (708) 539-7025.

For sale: one male albino and one female hetero Sonoran gopher snakes, c.b. '93, \$135/pair. Matt, (708) 246-5601.

For sale: eggs incubating now! Louisiana pines (rare in the wild and collections), Vandeventer stock, \$300 each; tangerine Hondurans (male Norm Damm strain), bright colors, \$150 each; Mexican black kings, patterned \$35, all black \$50; striped prairie kings, great for albino project, \$60 each; gray-banded kingsnakes (Blair's phase), \$150 each; Brazilian rainbow boas (Schuett stock), from iridescent orange adults, babies \$250 each; blonde trans-Pecos rat snakes, \$175 each; rare locale data corn snakes, \$40 each or \$75/pair. Chicago area pick-up or mail order. All hatchlings will be feeding and sexed properly before shipping. Call Brad at (708) 443-7286 or Mike at (708) 372-3936. Call Brad after 4 P.M. or leave message with Mike.

For sale: Adult breeders: two male and three female Durango kings (*Lampropeltis mexicana greeri*), \$1000/group or \$500/pair; one male and one female coastal banded California kings, \$175/pair or best offer; male Langtry gray-banded king (*L. alterna*), Blair's phase, \$175; male wild-caught River Road *L. alterna*, good breeder, \$225; male generic *L. alterna* (alterna morph), good breeder, \$200; male Pueblan milk (*L. triangulum campbelli*), good breeder, \$100; male Long Beach phase California king, good breeder, \$100; female striped albino corn, produced 23 eggs in '96 and over 40 in two clutches in '95, \$225; male ghost corn, good breeder, \$100. Also, three adult male leopard geckos, \$35 each, and 25 2- to 3-month-old leopard geckos from hi-yellow adults, \$17–20 each. The following '96 hatchlings: albino prairie kings, \$35; albino yellow rat snakes, \$35; albino greenish rats, \$35; Mexican black kings, \$30–35; blotched kings, \$25–50; south Florida kings, \$40-50; b&w banded Cal. kings, \$35; b&w striped Cal. kings, \$40–45; banded Cal. kings, \$20; Long Beach Cal. kings, \$25–40; gray-banded kings, \$100–150; Thayer's kings, \$65–85; Pueblan milks, normal, sockhead, apricot, \$45-100; Sinaloan milks, \$50; Everglades rat snakes, \$15. Paul, (770) 251-4518, before 11 P.M. Eastern. [GA]

For sale: 1996 prospective hatchlings. Trans-Pecos ratsnakes, \$35 each; Baird's ratsnakes, \$25 each; Mexican hognose, \$35 each [permit needed in Illinois]; western hognose, \$25 each [permit needed in Illinois]; prairie kings, \$25 each; California kings, \$25 each; greybands, various locations, \$100 and up; *ruthveni*, \$75 each; Durango mountain kings, \$100 each; Mexican black kings, \$40 each; Mexican milksnakes, \$50 each; Pueblans, \$50 each; red milks, \$35 each; albino speckled kings, \$50 each; *thayeri*, \$100 each; Arizona mountain kings, \$125 each; rosy boas (*roseofusca*), \$75 each. Prices subject to change. Quantity discounts. Steve Mitchener, 2928 Kerry Lane, Oklahoma City OK 73120, (405) 748-6566 after 6 P.M. Central Time.

For sale: adult male Mexican milksnake, \$150; three c.b. adult male Pueblan milksnakes, \$100 each; corn snakes, \$15–50; six male and two female c.b. '95 Sinaloan milksnakes, \$75 & \$100; two male c.b. '95 tangerine Honduran milksnakes, \$135; one male and one female c.b. '95 snow corns, \$150/pair; six male and two female c.b. '95 double heterozygous (yellow and white) albino black rat snakes, \$50; eight male c.b. '95 prairie kingsnakes, \$35; c.b. '96 Louisiana pine snakes, \$250; c.b. '96 Florida pine snakes, \$35. Write or call for complete list. Theron E. Magers, P.O. Box 521, Boyce LA 71409, (318) 793-9413.

For sale: tricolors, albinos and a few secret projects. Send SASE for free price list. Robert Applegate, P.O. Box 338, Campo CA 91906, (619) 478-5123. Also, free husbandry consultation by phone, as a service to the herp community.

For sale: one male and two female Peruvian redbtail boas, c.b. '95, \$900/trio; two male and two female Guyanan redbtail boas, c.b. '96, \$275 each or \$1000/group; one male and one female true Brazilian redbtail boas—from Belem, Brazil—c.b. '96, \$500 each; one male Bolivian boa (*amarali*), fat silver back, \$900/offer, or will buy c.b. '94 ♀; one male and one female Hog Island boas, the best “orange tail” line around, \$300 each; two female diamond × carpet pythons, c.b. '96, nice “flowers”, \$300 each; Nassau boas (*Epicrates s strigilatus*) due anytime, \$750/pair; Madagascan tree boa babies—mandarin or green phase—sell or trade; four female *Lampropeltis triangulum gentilis*, Kansas, c.b. '96, \$70 each; one male and one female *L. t. syspila*, Missouri, best red and white, \$110 each. Doug, (707) 745-5583. [CA]

For sale: one male and one female Hogg Island boas, c.b. '90, proven breeders, \$1500/pair; one male and one female Sonoran Desert Mexican boas, c.b. '91 and '93, proven breeders, \$550/pair; female Mexican boa, approx. 7', proven breeder, \$400; two male and one female long-term captive Peruvian redbtail boas, Iquitos, gray in color, \$1500/trio; five male and 19 female Brazilian *amarili*, c.b. '96, \$600; five male and five female Amazon Basin Colombian redbtail boas, c.b. '96, \$400–500; one male and two female long-term captive Savu Island pythons, \$2000/trio; Borneo blood pythons, c.b. '96, \$100–200, unrelated available; Sumatran black pythons, c.b. '96, \$200–250, unrelated available. Tim or Janice, (903) 454-1312. [TX]

For sale: three male and four female Brazilian rainbow boas, c.b. 6/96 from very nice red/orange adults, nice crescents, \$395/pair, two pair for \$750; Nuevo León kings (*thayeri*), leonis phase, c.b. '95, 22–24", very pretty, \$285/pair; albino labyrinth Burmese, breeding pair, male 8', female 10–11', gorgeous yellow and white, \$3750/pair (babies from this pair \$750 each); three male and three female jungle carpets, c.b. 6/96 from nice black/yellow Sipperley stock, \$625/pair; Tarahumara mountain kings (*knoblochi*), male is c.b. '95 (Osborne stock), female is c.b. '94 (Barker stock), \$875/pair; one male and two female trinket snakes (*Elaphe helena*), c.b. 5/96, nice green, \$50 each. (619) 265-7557. [San Diego]

For sale: Wow! baby-tame female emerald tree boa, 2½ years old, \$650; top-notch male Surinam boa constrictor, 2½ years old, great tail, \$450; male Queensland carpet python, 1 year old, best ever seen, \$225; 3-month-old albino rat snake, \$50. All captive-bred. Reasonable offers considered. Bob, (630) 307-0879.

For sale: one pair of Queensland carpet pythons, 4–5 years old, female 6', male 5', \$650/pair or trade for Brazilian rainbow boas. (708) 896-1703.

For sale: Burmese pythons heterozygous for green, \$55, regular, \$50 each, quantity discounts available. Also, African fat-tail geckos, \$40 each; leopard geckos, \$25 each; Honduran milksnakes, \$100 each. Ed Schoene, (607) 264-3441. [Springfield Center NY]

For sale: Mexican rosy boa pair, c.b. '93, \$250; female northern pine snake, c.b. '93, nice b&w contrast, \$50; male desert phase California kingsnake, c.b. '93, \$40. All snakes in excellent condition. (708) 361-5835.

Advertisements (cont'd)

For sale: Hog Island boas, c.b. 5/96, \$200–275 each, yearling “keeper select holdbacks,” \$325 each; Brazilian rainbow boas, c.b. 4/96 from orange-red adults, females only, \$225; Colombian rainbow boas, c.b. 4/96, males \$65, females \$85; c.b. '96 albino speckled kings, \$40; albino and hetero corns, \$20; hetero for albino bulls, \$40. Possible delivery to Chicago area. Mark Wendling, (319) 857-4787. [IA]

For sale: captive-bred snakes. Blood pythons, Burmese pythons, Kenyan sand boas, black rat snakes, bull snakes. Will deliver in Chicago metro area or ship from O'Hare Airport. Joan Moore, (312) 528-4631.

For sale: Send SASE to CRC, P.O. Box 0731, Las Vegas NV 89125-0731 for brochures and list of species available. Limited bookings available for guided tours of herpetological collection sites in Nevada. Call/fax (702) 471-0240. Look for our ad on the Internet, <<http://www.accessnv.comm/crc>>.

For sale: hedgehogs, \$70. Cute little African pygmy. Home bred and handled. Evanston, IL. (847) 475-3295.

Free to good home: 4' iguana. Recipient must have a suitable large cage. Frank, (708) 652-2686 mornings.

Help wanted: Herpcare/Midwest Reptile Farm is looking for full- and part-time animal caretakers. Must have some reptile hobby experience. Full-time position has benefit package. Located in Glendale Heights, Illinois. Call evenings or weekends, (312) 561-9003.

Pet-sitting service: Complete in-home pet and plant care, specializing in reptiles and other unique pets. Dogs and cats welcome with open arms, midday dog walking. Experienced and dependable service by devoted animal lovers, serving Chicago and suburbs, reasonable prices, fully insured and bonded. Ask about our habitat consultation and custom-made cages. Exotics & More, (312) 728-5457 or page us at (708) 750-3688.

Repto-rama: Live educational presentation of local herps and herps of the eastern U.S. for parties, scout groups, nature centers etc. Dave, (847) 679-1530.

Software: **TRACS™** record keeping and breeding software for IBM and compatibles. TRACS™ Professional, a full system, \$129; TRACS™ Lite, for the hobbyist, just \$39.95. Add \$5 s&h, \$10 outside U.S. Send for a working demo for \$10 (cost may be applied toward purchase). Or download demo free via Internet at <<http://www.herp.com/tracs/>>. Send check or money order to Leapin' Lizards, 23852 Pacific Coast Highway, #375, Malibu CA 90265.

Tours: Adventure tours to Madagascar! Join **Bill Love** seeing and photographing fauna and flora, heavily herp-biased, across the world's least known mini-continent. Much more fun than shoveling snow November–February. Contact him at: BLUE CHAMELEON VENTURES, P.O. Box 643, Alva FL 33920. TEL: (941) 728-2390, FAX: (941) 728-3276, E-MAIL: <blove@cyberstreet.com>.

Tours: **Road-riding in Costa Rica!** Treat yourself to the trip of a lifetime! Learn about tropical herps, find them, photograph them, see where they live. **Greentracks, Inc.**, offers the best herpetological tours led by internationally acclaimed herpetologists and herpetoculturists. See the Amazon, visit cloud forests, experience the world's greatest rainforest, super sunsets and good company. Call (800) 9-MONKEY.

Wanted: adult male Florida box turtle for breeding; also male red-cheeked musk turtles (*Kinosternon scorpioides cruentatum*). Bill, (414) 628-0066.

Wanted: Egyptian tortoises (*Testudo kleinmanni*). Dan, (303) 347-0394 (evenings only pleas) or fax (303) 347-1172 (24-hour). [CO]

Wanted: ornate uromastyx for breeding project. (708) 896-1703.

Wanted: outstanding captive-bred or wild caught *Lampropeltis getula floridana (brooksi)*, locality data preferred but not required; all subspecies of *L. zonata*; and *L. triangulum multistriata*, *L. t. sypila* and *L. t. gentilis* with exact locality data. Kirk Setser, 414 Wickham Road, Manhattan KS 66502.

Wanted: legally collected Chicago area northern leopard frogs, adults or tadpoles, for repopulation of a local pond. Dave, (847) 679-1530

Wanted: big-headed turtles; mata mata turtles; Mexican giant mud turtles (*Staurotypus triporcatus*); exceptionally large common snappers (45 lbs. & up); large alligator snappers (over 90 lbs.); spectacled caiman from Trinidad, Tobago and Surinam; dwarf caiman; smooth-fronted caiman; albino turtles (except red-eared sliders). Walt Loose, (610) 926-6028, 9:00 A.M. – 1:00 P.M. or after 11:30 P.M. Eastern Time.

Wanted: Styrofoam boxes, any size or shape so long as they're not flimsy, preferably with cardboard liners, willing to pay from \$2 to \$5. Bring to CHS meetings. Scott J. Michaels, D.V.M., Serpent City, (815) 363-0290.

Line ads in this publication are run free for CHS members — \$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (312) 588-0728 evening telephone, (312) 782-2868 fax, E-mail <MADadder0@aol.com>.

News and Announcements

MID-ATLANTIC REPTILE SHOW SEPTEMBER 13-15

The Maryland Herpetological Society will sponsor the fourth annual Mid-Atlantic Reptile Show, September 13–15, at the Maryland State Fairgrounds 4-H Hall. The host hotel will be the Holiday Inn Select Baltimore North in Timonium MD. For sale at the show will be captive born reptiles (only), accessories and books. This is a not-for-profit venture; proceeds are given to the Center for Ecosystem Survival for the purchase of rainforest. Saturday evening's speakers will feature James B. Murphy, Bruce Shwedick, and others to be announced. For information and vendor reservations contact Tim Hoen, Show Coordinator, at (410) 557-6879, write the Maryland Herp Society, 2643 N. Charles Street, Baltimore MD 21218-4590 or check the web <<http://www.pythons.com/mars.html>>.

ATLANTA REPTILE & AMPHIBIAN BREEDER'S EXPO AUGUST 31

The Georgia Herpetological Society will hold the Atlanta Reptile & Amphibian Breeder's Expo, Saturday, August 31, 10:00 A.M. til 5:00 P.M., at the Cobb Galleria Center in Atlanta, located at the intersection of I-75 and I-285. Only captive-bred animals will be offered. Proceeds go to benefit local nature centers. For booth information write the Georgia Herpetological Society, P.O. Box 464778, Lawrenceville GA 30246, or call (404) 653-9966.

UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, August 28, at the Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, in Chicago. Dr. John Rossi, a veterinarian from Jacksonville, Florida, will present a program based on his latest book, *Snakes of the United States and Canada: Keeping Them Healthy in Captivity: Volume 2, Western Area*. This book, written in collaboration with his wife, Roxanne Rossi, covers not only the kingsnakes, milksnakes, rat snakes, gopher snakes, rosy boas, etc., that are routinely kept in captivity, but also a wide variety of lesser-known species that are less frequently maintained as captives.

At the September 25 meeting, Dr. Harold Voris of the Field Museum will speak on "Ecology and Evolution on the Tides: The Venomous Sea Snakes."

We are required to use the entrance on the west side of the museum. We have permission to use the staff parking lot to the west of the museum. Entrance to this lot is from McFetridge Drive, the wide street just to the south, between the museum and Soldier Field. There is also free parking available in the lot to the north of the museum. The #146 CTA bus goes directly to the museum. Unfortunately, it does not operate past 9:00 P.M. However, after the program anyone needing a ride to a CTA stop will have no trouble finding one—just ask any board member.

Turtle Club

The Chicago Turtle Club will meet Sunday, August 25, 1:00–3:30 P.M., at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago.

Amphibian Club

The Amphibian Club will meet on Friday, August 30, 7:00 – 9:00 P.M., at the Skokie Public Library, 5215 Oakton. Dave Golde will speak on amphibian predators. For information on this group, call Dave Golde at (847) 679-1530.

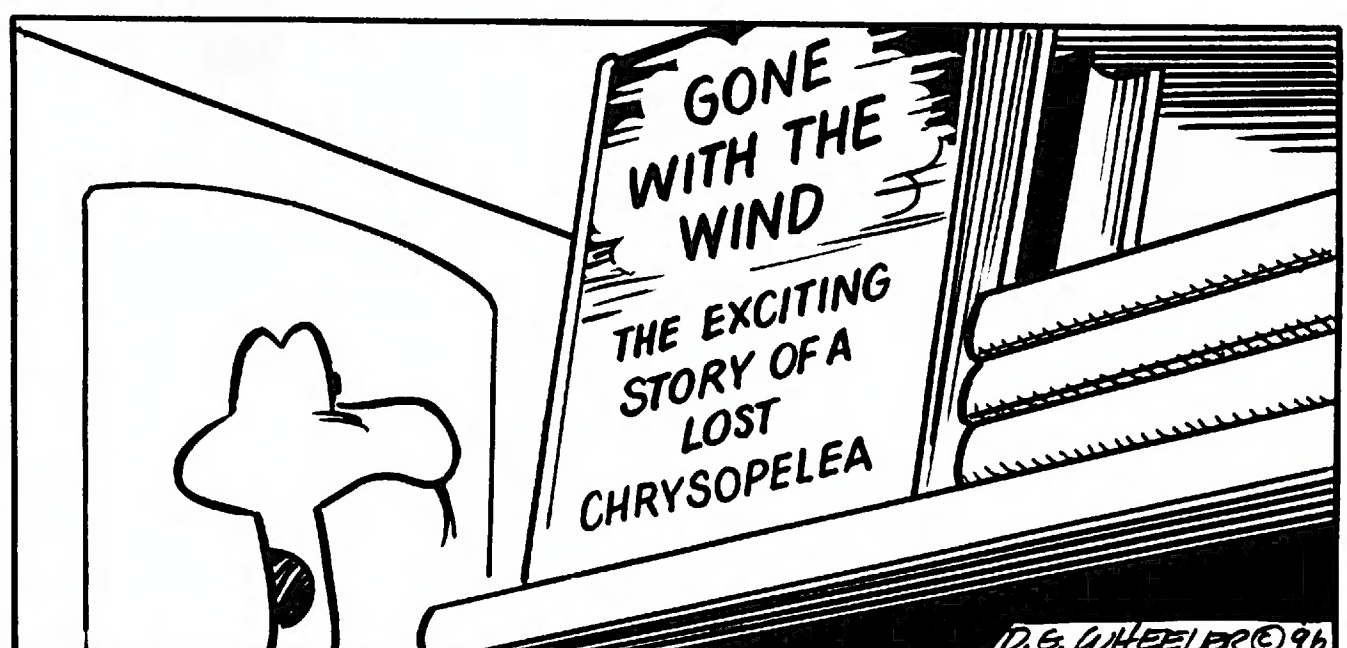
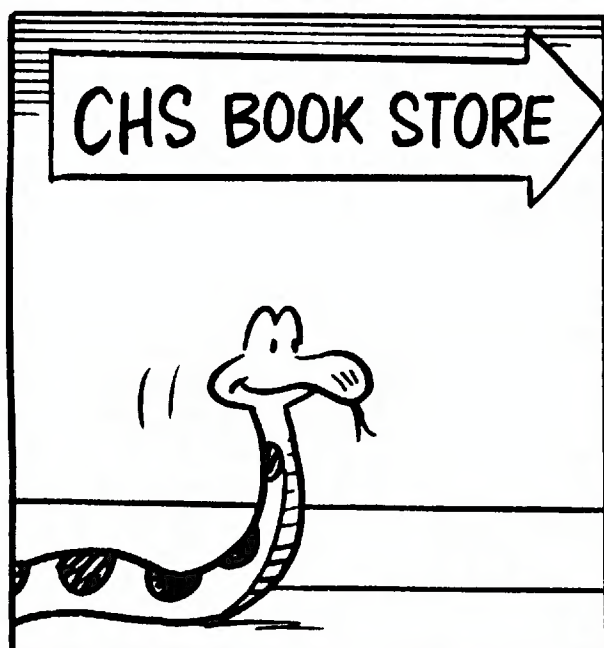
SEPTEMBER 21–22 HERPETOLOGICAL WEEKEND

The Chicago Academy of Sciences currently occupies temporary quarters at North Pier, 465 E. Illinois Street (just across Lake Shore Drive from Navy Pier). This will be the site for the 14th annual HerPETological Weekend put on by the CHS under the auspices of the Academy. The show will take place over the weekend of September 21–22, from 10 A.M. to 4:30 P.M. on Saturday and from Noon to 4:30 P.M. on Sunday. We urge all CHS members to bring some of their favorite animals and suitable containers in which to display them. For more details attend the August 28 CHS meeting or phone Ron Humbert at (630) 620-7377.

CLEMMYS INTEREST GROUP

Those interested in receiving and contributing to the *Clemmys* Interest Group newsletter should write to: Sheila Tuttle, CIG Newsletter Editor, Department of Biology, Skidmore College, Saratoga Springs NY 12866-1632. Please no questions on care or husbandry unless it's research related. This is for research and conservation only. It's free and an E-mail version will be available in the future. First issue to be out by end of this year. Nonscientists can subscribe.

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